

### Abstract

A wavelength conversion element having multi-gratings free from damage propagation and a light generating apparatus using it, and a wavelength conversion element having multi-gratings to make a thermal distribution centrosymmetric, and being free from damage propagation, are provided.

The wavelength conversion element is realized by comprising a holder and plural prismatic ferroelectric single crystals disposed in the holder, wherein plural prismatic ferroelectric single crystals have at least five planes; the aspect ratios of planes perpendicular to respective longitudinal directions of the plural prismatic ferroelectric single crystals are virtually unity; and each of the plural prismatic ferroelectric single crystals has a domain inversion structure with a predetermined period in the direction perpendicular to the polarization direction thereof, and is arranged in a way that said direction perpendicular to the polarization direction is the same as those of the other crystals.

In addition, the element is realized by selecting ferroelectric material from a group comprising lithium niobate, lithium tantalate, impurity-doped lithium niobate, and impurity-doped lithium tantalate, each with virtually stoichiometric composition, and processing it into the cylindrical ferroelectric single crystal with a virtually completely round cross-section.